Costpoint Enterprise Cloud

SaaS Developer Guide

January 8, 2018

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Contents

Overview

The Costpoint Enterprise Cloud SaaS Developer Guide is intended to provide developers with an understanding of the Costpoint Enterprise Cloud Software Development Life Cycle (SDLC). Understanding the Costpoint Enterprise Cloud SDLC will ensure your development efforts result in the successful deployement of your Costpoint Extensibility Packages. This guide also provides informationon utilizing the Costpoint ODBC connection that is part of your Costpoint Enterprise Cloud solution.

Developers should read this guide before they begin a development project. Having a thorough understanding of the Costpoint Enterprise Cloud SDLC will ensure the success of your development project. The following areas are all covered in this document.

- Scheduled upgrades to the cloud applications and their impact to your development projects
- Available environments
- Service requests and their respective Service Level Objectives (SLO)
- Customer's responsibilities for ongoing support of their Costpoint Extensibility Packages

This guide is updated frequently, and the latest version is always available from the Deltek Support Center link.

Deltek Costpoint Enterprise Cloud

The Deltek Costpoint Enterprise Cloud requires one of the following Deltek solutions:

- Costpoint Essentials
- Costpoint Essentials Plus

Additional details on these solutions can be found at www.deltek.com.

This document is written for both solutions. The guide will indicate when information pertains to only one of the solutions.

Standing Maintenance Windows

Every Monday, Wednesday and Friday morning from 2am – 4am EST Deltek maintains a standing maintenance window. The standing maintenance window will not always be used. Deltek will place a message in the System Maintenance area on your cloud portal if Deltek plans to conduct maintenance during the standard maintenance window that will cause the system to be unavailable for a period of time within the standard maintenance window.

SaaS Customer Administrator

Each Costpoint Essentials customer must have a designated SaaS Customer Administrator. The SaaS Customer Administrator is responsible for managing your organization's Costpoint Essentials solution which includes submitting service requests to Deltek on your company's behalf.

For security purposes, Deltek will only process service requests that are submitted to Deltek Customer Care by your company's SaaS Customer Administrator. Service requests submitted by personnel other than your SaaS Customer Administrator will be rejected.

As a SaaS Developer you will find it necessary to submit service requests to support your development project. Therefore it will be helpful, but not required, for a SaaS Developer to also be assigned, temporarily, as a SaaS Customer Administrator. If the SaaS Developer is not assigned as a SaaS Customer Administrator the SaaS Developer must rely on the SaaS Customer Administrator to submit service requests that support their development project.

Your organization can have a **maximum of five SaaS Customer Administrators** at any given time. Each SaaS Customer Administrator will have the same authority to administer the Costpoint Essentials solution.

Please see the Deltek Costpoint Enteprise Cloud SaaS Customer Administrator Guide for more information.

How to Stay Informed

Deltek is committed to keeping you informed of any developments that may affect the availability or functionality of your Costpoint Essentials solution. As a SaaS Developer you will need to be keenly aware of all maintenance updates scheduled for your solution.

All maintenance updates will be posted on your your company's cloud portal in the System Maintenance window. It is critical that you check this System Maintenance window on a regular basis. This is often the only way maintenance updates are communicated to you.

Cloud Portal

The Cloud Portal provides customers, consultants, and partners with the most up-to-date information regarding the Costpoint Essentials solution. Here you will find information regarding system maintenance schedules, upcoming releases, and links to documentation and training materials.

Please visit your company's cloud portal regularly for critical information regarding your organization's Costpoint Essentials solution.

Costpoint Messages

Deltek will periodically post messages that will appear as pop up messages in Costpoint. Users will receive these messages when they log into Costpoint. These messages will include information about your cloud solution. Deltek has the ability to direct these messages to specific Costpoint users so not all users will see every message.

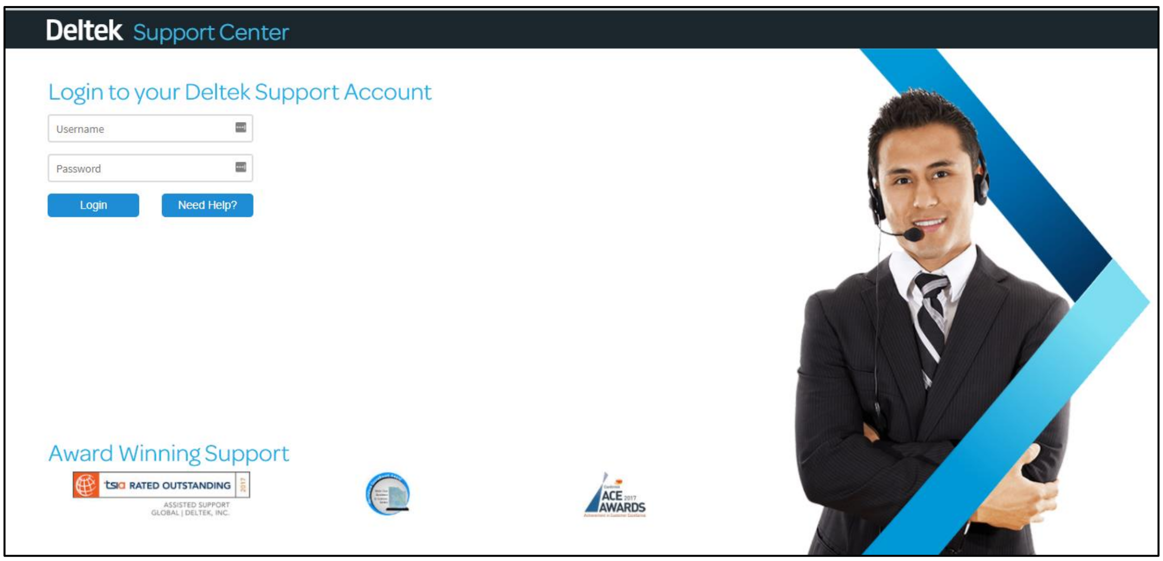
Deltek Customer Care Knowledge Base

The Customer Care Knowledge Base contains Costpoint Essentials related articles as well as announcements regarding planned and unplanned maintenance.

Knowledge Base Article #87512 was specifically created for Costpoint Enterprise Cloud customers. Deltek strongly urges you to subscribe to this Knowledge Base article. Whenever changes are made to Article #87512, a system-generated notification is automatically sent to anyone subscribed to it.

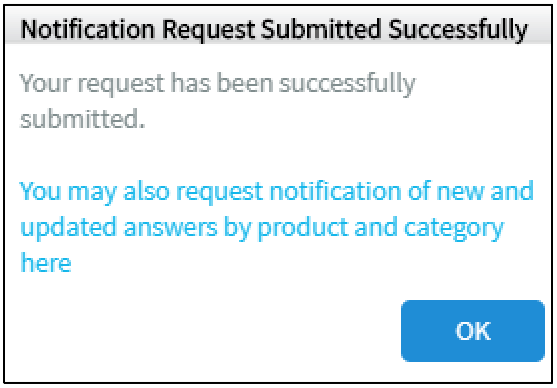
To subscribe to the Costpoint Enterprise Cloud Knowledge Base article, complete the following steps:

1. Go to https://deltek.custhelp.com/app/answers/detail/a_id/87512
2. Log on to the Deltek Support Center using your Customer Care credentials.



3. Click **Notify Me** at the bottom of the article.

4. Click **OK** on the confirmation screen.



Release Notes

Deltek will publish release notes at least **10 business days** prior to any scheduled upgrade in the cloud. This includes upgrades to the Production, Development, Implementation/Test and Preview Environments.

To access the Release Notes navigate to your company's cloud portal page and click on the following link:

[Support, Guides and FAQ's >>]

Once you have authenticated into the Deltek Support Center click on Costpoint Enterprise under the Deltek Cloud Solutions grouping. The Release Notes can be found under the Recent Releases grouping.

Additional Documentation for SaaS Developers

The following documents are also available for SaaS Developers. These documents can be found on the Deltek Support Center under the Costpoint Enterprise section of the Deltek Cloud Solutions page.

- DeltekCostpoint711ExtensibilityDesignerQuickStartGuide
- DeltekCostpoint711ExtensibilityDesignerCodingGuide
- DeltekCostpoint711ExtensibilityDesignerUserGuide
- DeltekCostpoint711ExtensibilityDesignerReportGuide
- DeltekCostpoint711ScreenCustomizationAndBusinessLogicExtensibility

Environments and Databases

Costpoint System Name

The following pattern is used to set up the system names of the available Costpoint databases for your company.

In this example, assume **Regent** is the name of the company:

- **REGENT** – System name for the Costpoint Production database
- **REGENTDEV** – System name for the Costpoint Developement database
- **REGENTCONFIG** – System name for the Costpoint Implementation/Test database
- **REGENTTEST** – System name for the Costpoint Implementation/Test database
- **REGENTPREV** – System name for the Costpoint Preview database
- **REGENTSBOX** – System name for the Costpoint Sandbox database

Costpoint Enterprise Cloud Environments

The table below details the types of environments and system names (databases) that are included in the Costpoint Essentials solution.

Environment	System Name(s)	Description
Production	*CompanyName*	**Purpose** This environment is where your company's live production databases are deployed and maintained. **Access** Only the Deltek Cloud Operations team has access to the Production Environment and the databases residing in this environment. Direct access (using SQL or any other database tools) to the databases in the Production Environment is not permitted. **Application Version** The applications running in the Production Environment always run the latest version of the application software.
Production	*CompanyName*SBOX Cutomers can purchase additional Systems (databases).	**Purpose** This Sandbox database allows users to test configuration changes before implementing these changes in your company's production database. **Access** The Sandbox database resides in the Production Environment and only the Deltek Cloud Operations team has direct database access to the Sandbox database. Direct access (using SQL or any other database tools) to the databases in the Production Environment is not permitted. **Application Version** The Sandbox runs the same version of the application as your company's Production Environment.

Environment	System Name(s)	Description
		All customers receive a Costpoint Sandbox database and a Time & Expense Sandbox database as part of their offering. The Costpoint Sandbox database is integrated with the Time & Expense Sandbox database. Customers cannot integrate the Sandbox database with their production database. For example, you cannot integrate your Costpoint Sandbox database with your Time & Expense Production database. **Database Refresh** Up to a maximum of 12 times per year, you can request that your company's Costpoint or Time & Expense Sandbox database be refreshed with your current Costpoint or Time & Expense Production database. To do so, submit the Database Refresh service request. **IMPORTANT**: Deltek reserves the right to reset your Sandbox database back to a blank database at anytime. Typically resetting your Sandbox database is only done when a major upgrade is scheduled. If Deltek plans to reset your Sandbox database to a blank database this will be included in the customer communication plan.
Implementation/Test	*CompanyName*CONFIG, *CompanyName*TEST Cutomers can purchase additional Systems (databases).	**Purpose** The Implementation/Test Environment serves two purposes. The first purpose is to support a customer's initial implementation/migration to the cloud. An Implementation Environment is provided to all customers upon initial activation in the cloud. Once a customer has successfully completed their implementation or migration they should submit the Promote to Production service request to promote their databases to the Production Environment. The second purpose is to support customer's testing efforts as part of the software development lifecycle in the cloud. Testing of Extensibility Packages, Web Services, Stored Procedures and Custom Database Objects is performed in the Test Environment. Once testing is complete you can schedule the Promote to Production service request to deploy your development project to your Production Environment. Please review the Promote to Production Service Request thoroughly as there are restrictions as to when you can promote development projects to the Production Environment. **Access** Users have elevated access to their databases in the Implementation/Test Environment. This allows users to perform implementation services, data migration and testing. Users have access to SQL Server Management Studio in the Implementation/Test Environment. Access to SQL Server Management Studio is provided via Citrix. **IMPORTANT**: Users do not have SQL Server Management Studio access to the databases in the Production Environment. The SaaS Customer Administrator must submit the Request SQL Server Management Studio Access service request to provide a user with SQL Server Management Studio rights. If a SaaS Developer is assigned SQL Server Management Studio rights they will receive access in both the Implementation/Test Environment and the Development Environment. The user is provided the following database rights:

Environment	System Name(s)	Description
		▪ Connect ▪ Select ▪ Insert ▪ Update ▪ Delete Users do not have access to the file server in the Implementation/Test Environment. Database Objects are not visible in the Object Explorer navigation pane. Users are required to open a query window and connect to the database using the “USE” commnd. You will be required to enter your database name. If you do not know your database name please refer to your Welcome Email. All allowable system objects can still be viewed using the “SYSOBJECTS”, “SYSCOLUMNS” commands and SP_HELP. You can access the Costpoint Data Dictionary by navigating to the “Print Data Dictionary Report” in Costpoint located in the Administration > System Administration > System Administration Reports/Inquiries. **<u>Application Version</u>** The Implementation/Test Environment is updated to the next application version at the same time the Preview Environment is updated. **<u>Database Refresh</u>** Up to a maximum of 12 times per year, customers can request that their Costpoint and/or Time & Expense Implementation/Test database be refreshed. A Database Refresh service request must be submitted in order for Deltek to process the database refresh. **<u>Additional Systems (databases)</u>** Customers can purchase additional Systems (databases) in the Implementation/Test Environment. **<u>General Information</u>** Your Implementation/Test Environment is always available. Deltek Cloud Operations may request that specific databases be removed if they are not being used.
Development	*CompanyName*DEV Cutomers can purchase additional Systems (databases).	**<u>Purpose</u>** The Development Environment is available for developing Extensibility Packages, Web Services, Stored Procedures and Custom Database Objects. The Development Environment will include all applications you are licensed for (Costpoint, Time & Expense, Budgeting & Planning). **<u>Access</u>** The SaaS Customer Administrator must submit the Request SQL Server Management Studio Access service request to provide the SaaS Developer with SQL Server Management Studio rights. A SaaS Developer is assigned SQL

Environment	System Name(s)	Description
		Server Management Studio rights in both the Implementation/Test Environment and the Development Environment. The user is provided the following database rights: ▪ Connect ▪ Select ▪ Insert ▪ Update ▪ Delete Users do not have access to the file server in the Implementation/Test Environment. Database Objects are not visible in the Object Explorer navigation pane. Users are required to open a query window and connect to the database using the “USE” commnd. You will be required to enter your database name. If you do not know your database name please refer to your Welcome Email. All allowable system objects can still be viewed using the “SYSOBJECTS”, “SYSCOLUMNS” commands and SP_HELP. You can access the Costpoint Data Dictionary by navigating to the “Print Data Dictionary Report” in Costpoint located in the Administration > System Administration > System Administration Reports/Inquiries. Please see the Available Development Tools section in this guide for a list of the development tools available to the SaaS Developer in the Development Environment. Users do not have access to the file server in the Implementation/Test Environment. **Application Version** The Development Environment is updated to the next application version at the same time the Preview Environment is updated. **Database Refresh** Up to a maximum of 12 times per year, you can request that your company’s Costpoint or Time & Expense Development database be refreshed.To do so, submit a Database Refresh service request. **Additional Systems (databases)** Customers can purchase additional Systems (databases) in the Development Environment.
Development 2	*CompanyName*DEV2 Cutomers can purchase additional Systems (databases).	**Purpose** Additional Development Environments are available for a fee. The additional Development Environments will allow companies to manage multiple development projects at the same time. Please see the description for the Development Environment above for more information.

Environment	System Name(s)	Description
Preview	*CompanyName*PREV	**Purpose** The Preview Environment provides customers with an environment running the next version of the applications that Deltek is planning to deploy in the Production Environment. This allows users to preview the next version of Costpoint, Time & Expense or Budgeting & Planning application before Deltek updates the Production Environment to that version. Preview Environments are made available at Deltek's discretion. Customers should use the Preview Environment to train their employees on any new features that are being released in the applications. Customers should also use the Preview Environment to regression test their custom development packages they have deployed in the Production Environment. This is the responsibility of the customer. Deltek does not perform regression testing of a customer's development work. Customers should plan to test their Extensibility Packages, Stored Procedures, Web Services or Customer Database Objects to ensure these functions operate correctly on the next version of the applications. Testing, and any required fixes, must be completed prior the scheduled Production Environment upgrade maintenance window. If issues are encountered during regression testing they should be corrected in the Development Environment. Once the corrections are complete the customer should submit the Promote to Preview service request and complete the final testing in the Preview Environment. Once the customer has completed their final testing in the Preview Environment the customer should submit the Promote to Production service request to promote the correction to their Production Environment. The Promote to Production service request must be submitted and processes by Deltek Cloud Operations during the scheduled application update. This will ensure the correction is applied to the customer's Production Environment and available to the customer when the scheduled application upgrade is complete. **Application Version** The Preview Environment is updated to the next application version prior to Deltek upgrading the Production Environment.

Available Development Tools

The chart below identifies the development tools available in the Development Environment. These development tools are not available in the Production, Implementatio/Test or Preview Environments. These development tools are accessed via Citrix.

Development Tool	Available to SaaS Developer	Comments
Costpoint Configuration Tool	No	

Development Tool	Available to SaaS Developer	Comments
Costpoint DBWizard	Yes	DB Wizard should not be used to deploy any updates to the Costpoint application. DBWizard is only to be used for it's extensibility features
Costpoint Web Monitor	No	Direct Integration with Deltek Support Center. Leverage Manage Support Cases
Costpoint Extensibility Designer	Yes	Develop Costpoint Extensions
Costpoint Web Integration Console	Yes	Develop Costpoint Web Services API's
Eclipse Java and BIRT IDE	Yes	Develop Java code, Modify BIRT reports
MS SQL Server Mgmt Studio	Yes	Query database, design tables, create stored procedures
Full File System Access	No	
App Server Deltek Directory	Read/Write	Required for access to BIRT Source code and other extensiblity artifacts (Java code, Java classes etc.)
Restart Dev App Server	Yes	Restart app server to enable newly created web services

Gaining Access to the Environments

The company's SaaS Customer Administrator can provide you with access to the Development Environment. The following steps must be performed in order for you to gain access to the Development Environment.

1. SaaS Customer Administrator creates a user account for the SaaS Developer in User Manager.
2. SaaS Customer Administrator must assign the SaaS Developer to the **<company>-DEV** security group in User Manager.
3. SaaS Developer activates their user account.
4. SaaS Developer installs Citrix (used to access development tools)
5. SaaS Customer Administrator submits Request SQL Server Management Studio access service request.

The following provides detailed instructions for gaining access to the Development Environment and the applicable development tools.

SaaS Customer Administrator Creates a User Account for the SaaS Developer:

1. As the SaaS Customer Administrator log on to User Manager with your username and password. Make sure that you have activated your account before performing this step:
2. Click the following link:

   Manage User Accounts

   This link is also accessible by clicking the **Manage User Accounts** link on your cloud portal.
3. You will be taken to the User Mgmt tab. Click **Create Single User**.
4. On the User Profile tab, complete the following fields for this user, **First Name**, **Last Name**, **Phone Number**, and **Email**. The other fields on this screen are automatically populated with default settings.

   Usernames are limited to 20 characters. The 20-character limit includes the 5-digit client ID and periods (.). The system will truncate usernames over 20 characters.

   All usernames will be generated using the following format:

   12345.Firstname.Lastname where 12345 is your Deltek customer number.

   First and last names cannot contain spaces or any special characters, including hyphens (-) or apostrophes (').

   Double check the email address to ensure that it is accurate. If the email address is incorrect, then enter the correct email address.
5. Specify a date when this user's account will expire by completing the following steps:
   - Click the Account tab.
   - In the **Account expires** field, select **End of**, and enter a date or select **Never**.
6. Assign the necessary security groups to the user account.

- In the Password/Group/Profile section, find the Member Of field, and click on the pencil icon.
- In the Available Groups section select the **<company>-DEV** group, click the double right arrows to include in the Select Groups section, click Ok.

7. Create the User Account
   - Click Create User.
   - An email is automatically generated and sent to the user. The user must follow the instructions in the email to activate their account.

Auto-Generated Emails — When you create an account in User Manager, an email is automatically generated and sent to the user. The user must follow the instructions in the email to activate their account.

Install Citrix Plug-in

Citrix is required to access the development tools in the Development Environment.

You must send Deltek a service request in order to grant a user access to SQL Server Management Studio in the Development Environment.

To install the Citrix Receiver plug-in, complete the following steps:

1. Go to https://www.citrix.com/content/dam/citrix/en_us/documents/go/citrix-receiver-for-windows.pdf
2. Follow the instructions in the guide to install the Citrix Receiver.

   You do not need to complete this step in the instruction guide:

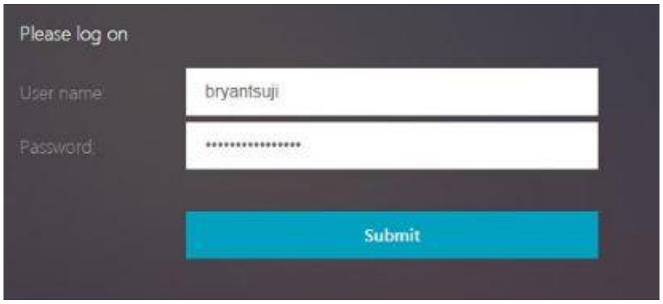
   > Once installed, open Citrix Receiver and enter the Server or email address, followed by User Name, Password and Domain. • Your IT Help Desk or system administrator provides this information.

3. Once the Citrix Receiver is installed you will need to setup your second authentication factor.

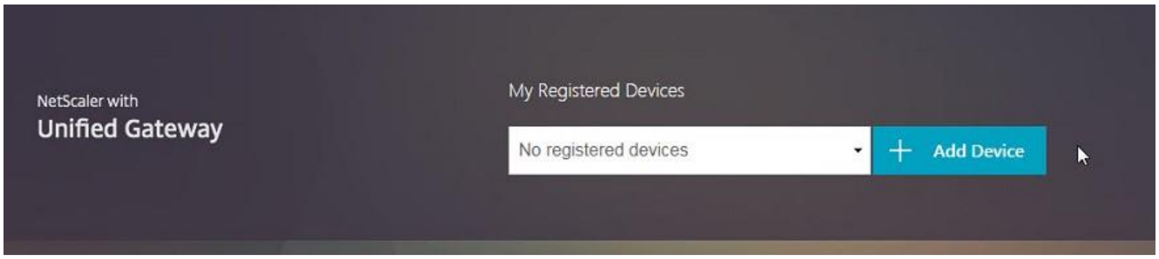
   a) To complete these instructions you will have to have an app installed on your mobile device that supports Time-based One-time Password (TOTP). Examples include Duo Mobile and Google Authenticator. These apps can be found in Google Play or App Store. You may already be using a TOTP app and you can simply add a new account within the app to complete this Citrix setup.

   b) Navigate to https://ctx2.deltekenterprise.com/manageotp

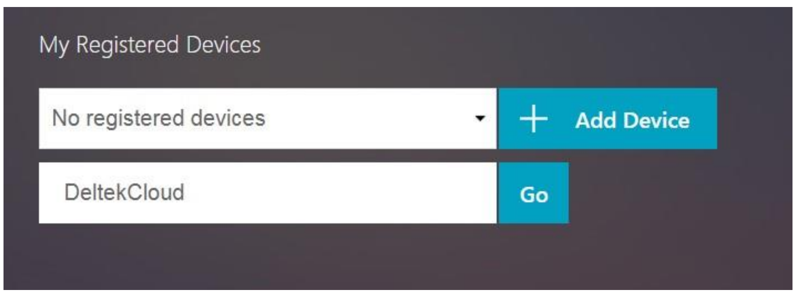
   Enter your credentials. You should have already activated your account in a previous step in this document.



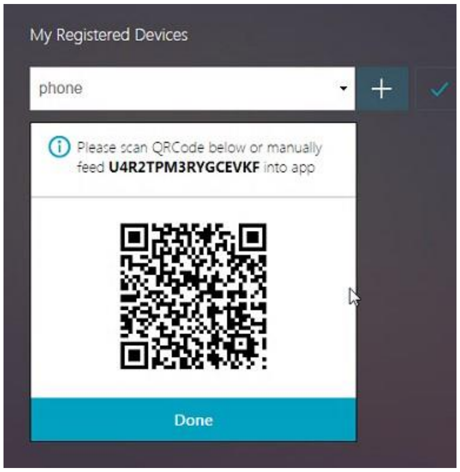
c) Select Add Device



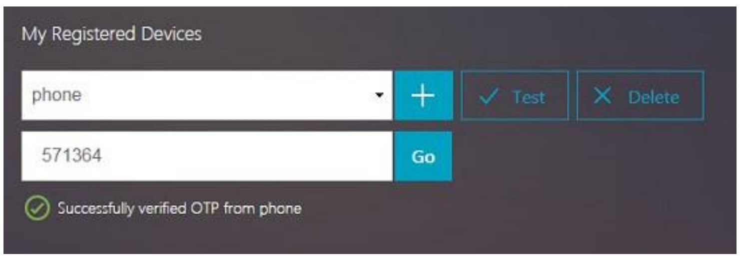
d) Enter a name for this device. In this example DeltekCloud has been entered as the name. Select Go.



1. Open your TOTP app (DUO or Google Authenticator) on your mobile device and select the option to create a new account. Select the option to scan a barcode. Scan the barcode that is shown on your computer screen after you selected Go in the previous step. Select Done. You can also manually enter the code on the screen into the TOTP app. Select Done.



e) Test your second factor authentication by selecting the Device name you entered in Step 3 and hit Test. Enter the code provided by your TOTP app and select Go.

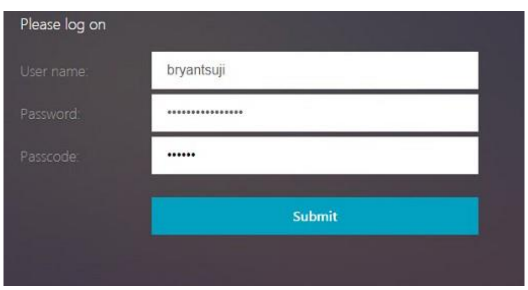


f) **Important**: Log off of the Citrix management portal and close your browser.

g) Once you have successfully installed the Citrix Receiver and your second authentication factor navigate to your company's Deltek Cloud portal and click the following link:

[Administrative Functions >>]

h) Enter your Username and Password. Enter the Passcode provided by your TOTP app and click submit.



You can setup multiple mobile devices to work with a single Citrix account.

In your TOTP app you can change the name of the account by long pressing on the account. This allows you to create a name that you will quickly recognize.

If you get a new mobile device and want to use it for the second factor you must log in with your old mobile device to setup the new mobile device.

If you get a new mobile device and want to use it for the second factor but you no longer have your original mobile device you must contact Deltek to reset your account.

If you lose your mobile device you must contact Deltek to reset your account.

SQL Server Management Studio Access

The SaaS Customer Administrator must submit the Request SQL Server Management Studio Access service request to provide the SaaS Developer with SQL Server Management Studio access in the Development Environment and the Implementation/Test Environment. This service request will provide the SaaS Developer with SQL Server Management Studio accesss in both environments.

Accessing the Implementation/Test Environment and the Development Environment

To access the Costpoint application in the Implementation/Test or Development Environment you should navigate to your company's cloud portal page and click on the following links. You will need to know your Costpoint System name to login. Please see the Costpoint System Name section in this guide for more information.

Implementation/Test Environment >>

Development Environment >>

Reminder: Your username must be populated into Costpoint in order for you to authenticate into the Costpoint application.

Application Lifecycle

Overview

Deltek will follow a published schedule for updating the applications available in the Costpoint Enterprise Cloud. Application updates will include the release of fixes, enhancments, as well as new features. As a SaaS Developer it is important that you understand the cloud application lifecycle and plan your development projects accordingly.

All application updates will be posted on your company's cloud portal in the System Maintenance window. It is critical that you check this System Maintenance window on a regular basis. This is often the only way application updates are communicated to you. Please see the How to Stay Informed section for additional information.

Application Lifecycle Example

The below chart depicts a sample eight month application lifecycle in the cloud. SysJar represents the version of the application that is running in the cloud. In the below example SysJar 20 is the current version of the application running in the cloud. In the month of April the cloud will be updated to SysJar 22 as depicted on the Production row and the April column (SysJar 20 => SysJar 22).

Prior to the applications in the Production environment being updated to SysJar 22 in April, Deltek will upgrade your Preview Environment, Development, Implementation/Test and any additional Non Prod environments to SysJar 22 in early March.

It should be noted that the Development, Implementation/Test and any additional non-prod environments will be upgraded to the next SysJar at the same time the Preview Environment is established. As a SaaS Developer you must plan for this upgrade and evaluate how/if it will impact your in flight development projects.

Promotion of your development project to the Production Environment must be completed during the time period when a Preview Environment is not active. The chart below indicates when the Promote to Production Window is Open and Closed. Promoting your development project to the Production Environment during an Open window will ensure your development work has been tested on the current cloud version. It will also ensure that your development package will be included in the next Preview Environment.

Costpoint Enterprise Cloud Environments	System Name	Most Current Release	Jan	Feb	Mar	Updates Applied Apr	May	June	July	Updates Applied Aug
Production	PROD & SBOX	SysJar 20	SysJar 20	SysJar 20	SysJar 20	**SysJar 20 => SysJar 22**	SysJar 22	SysJar 22	SysJar 22	**SysJar 22 => SysJar 26**
Preview	Copy of PROD		N/A	N/A	SysJar 22	SysJar 22	N/A	N/A	SysJar 26	SysJar 26
Non Prod Environments										
Development	DEV		SysJar 20	SysJar 20	**SysJar 20 => SysJar 22**	SysJar 22	SysJar 22	SysJar 22	**SysJar 22 => SysJar 26**	SysJar 26
Implementation/Test	TEST & CONFIG		SysJar 20	SysJar 20	**SysJar 20 => SysJar 22**	SysJar 22	SysJar 22	SysJar 22	**SysJar 22 => SysJar 26**	SysJar 26
Development #2	DEV2		SysJar 20	SysJar 20	**SysJar 20 => SysJar 22**	SysJar 22	SysJar 22	SysJar 22	**SysJar 22 => SysJar 26**	SysJar 26
Promote to Production Window			Open	Open	Closed	Closed	Open	Open	Closed	Closed

Release Notes

Deltek will publish Release Notes noting what is included in the upcoming SysJar release. These Release Notes will be published prior to the date the Preview Environment is upgraded to the next SysJar. Please see the How to Stay Informed section for additional information.

Costpoint Enterprise Cloud SDLC

Overview

It is important that all SaaS Developers understand and follow the Costpoint Enterprise Cloud SDLC to ensure your development efforts result in the successful and timely deployment of your development packages.

The following areas are all covered in this document.

- SDLC for New Development Projects
- SDLC for Modifying Existing Development Projects

This guide is updated frequently, and the latest version is always available from this Deltek Support Center link.

General Development Information

The following development rules must be followed for all development projects in the cloud. Failure to follow these rules will result in your development project not being promoted to your Production Environment.

Customers migrating existing on premise development packages into the cloud are also subject to these rules. Customers should plan to refactor any existing development packages to adhere to these rules as part of their overall cloud migration plan.

1. All extensibility tables/triggers/stored procedures will reside in the transaction database.
2. Non extensibility related tables/triggers/stored procedures will reside in the transaction database.
3. Deltek does not support deploying extensibility packages or non extensibility related packages in a separate database or schema.
4. All Web Services must be developed as Generic String Based web services.
5. Prescribed naming standards must be followed.
6. Include all create scripts for tables and stored procedures in the Extensibility package.
7. Create scripts for tables must check for the existence of the table and only create it if it does not exist
8. Stored procedure scripts must check for the existence of the stored procedure and delete the previous before replacing
9. Table and stored procedure scripts must not contain any schema name prefixes in front of table names
10. Square brackets are not supported. It is MS specific syntax that should be avoided.

SDLC for Development Projects

The SaaS Developer should follow these steps when starting a new development project in the Costpoint Enterprise Cloud.

Getting Started

First time SaaS Developers should follow the below steps to get started with your first development project.

1. Read the Costpoint Enteprise Cloud SaaS Developer Guide.
2. Gain access to the Development and Test Environments. See the Gaining Access to the Environments section in this guide for more information.
3. Install Citrix. Citrix is required to access the development tools in the Development Environment. See the Install Citrix Plug-in section in this guide for more information.

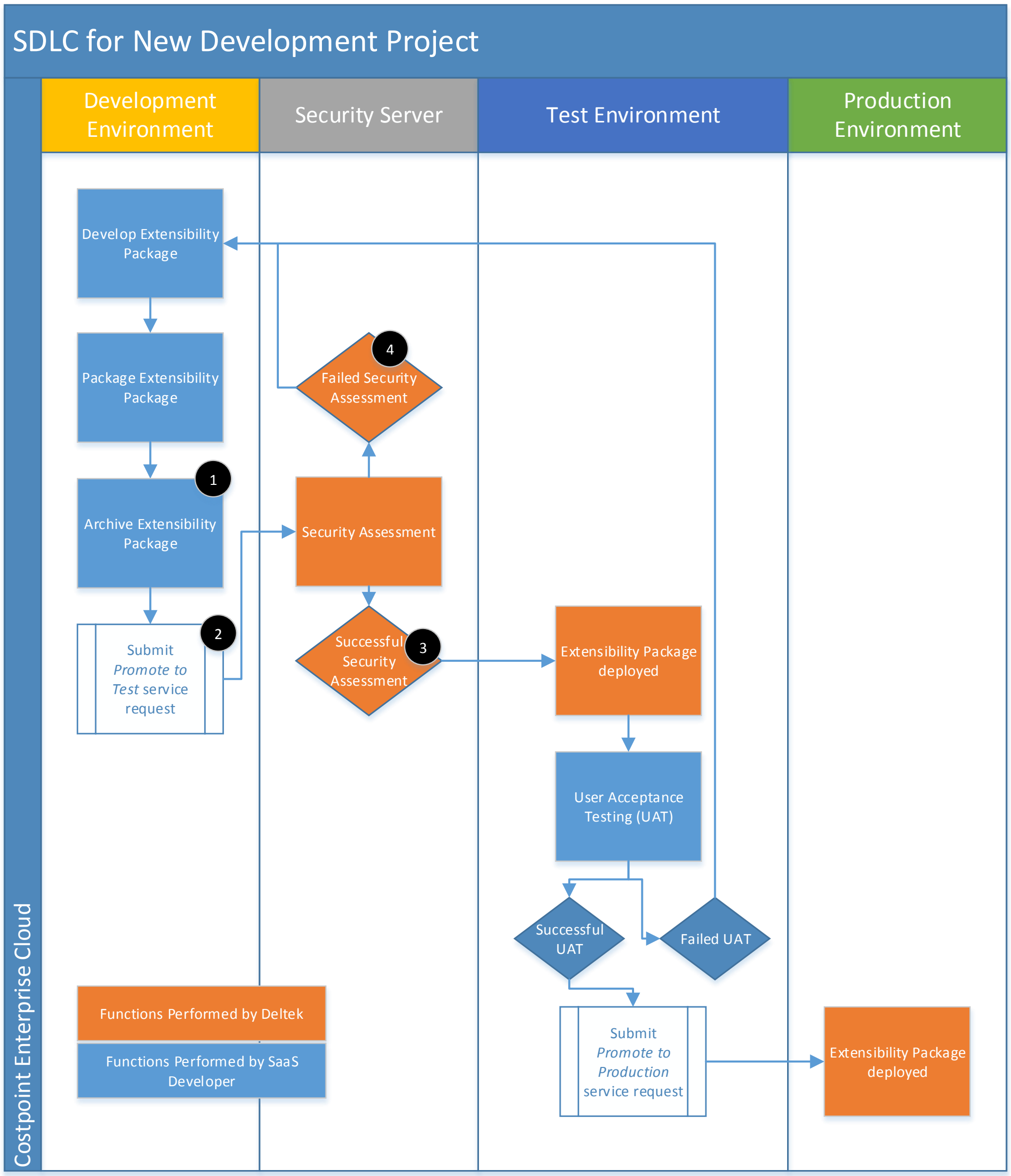
Development Guides

The following guides are available for to help developers get started with their development projects. These guides can be found on the Costpoint Enterprise cloud page in the Deltek Support Center. Click here to navigate to these guides.

- DeltekCostpoint711ExtensibilityDesignerQuickStartGuide
- DeltekCostpoint711ExtensibilityDesignerCodingGuide
- DeltekCostpoint711ExtensibilityDesignerUserGuide
- DeltekCostpoint711ExtensibilityDesignerReportGuide
- DeltekCostpoint711ScreenCustomizationAndBusinessLogicExtensibility

SDLC for *New* Development Project

The following flowchart outlines the development process for new development projects in the Cosptoint Enterprise Cloud. If you are modifying an existing development package please refer to the next section in this guide.



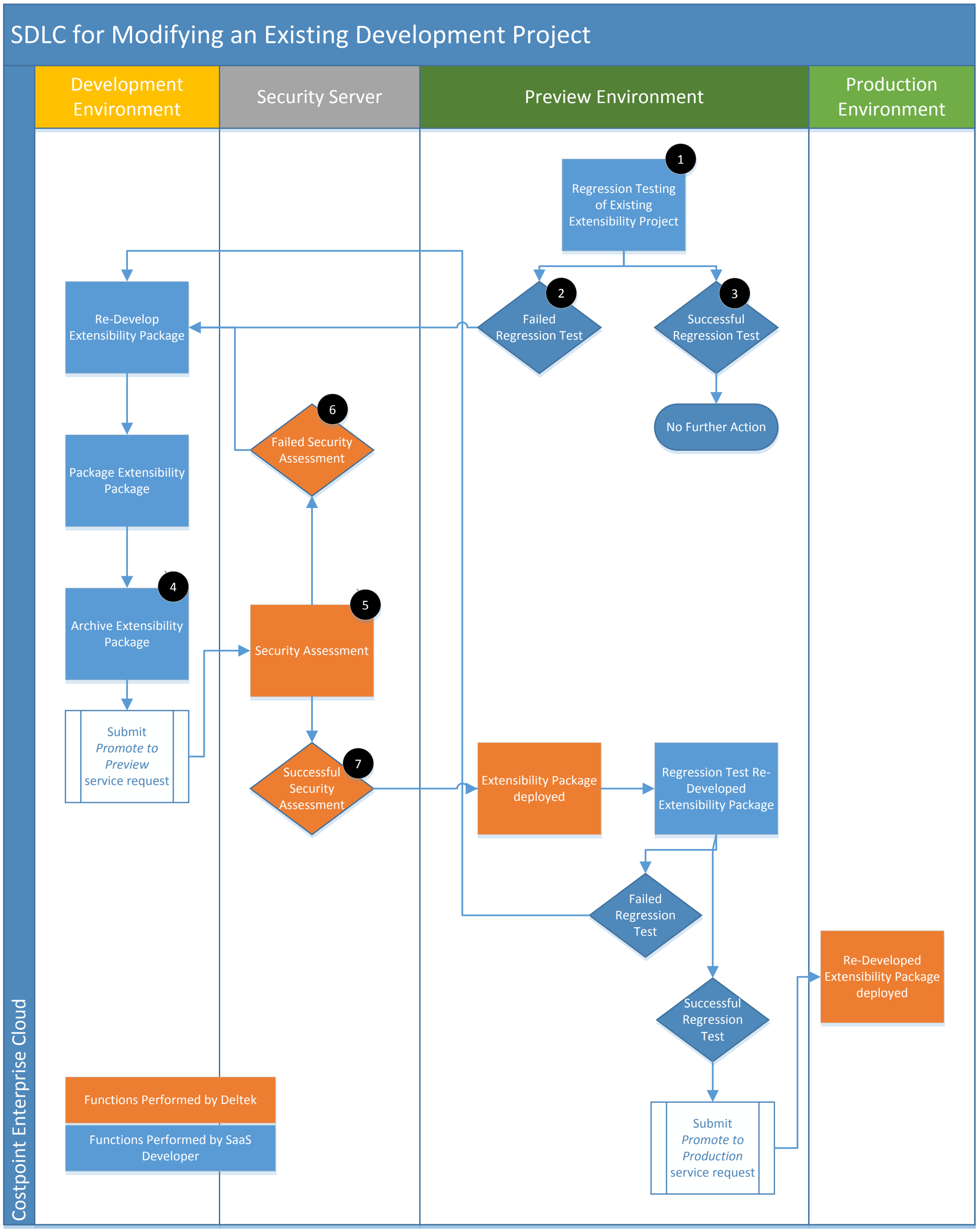
1 The SaaS Developer is responsible for archiving a copy of their Extensibility Package for future use. The SaaS Developer is also responsible for maintaining version control of their Extensibility Package. It is important that an archive copy is available in the event that the Extensibility Package has to be modified after it has been promoted to the Production Environment due to application updates.

2 Submitting the Promote to Test service request will initiate Deltek to conduct a Security Assessment of your Extensibility Package. The Security Assessment is a comprehensive review/mitigate/approval of your Extensibility Package (including source code). Please see the Security Assessment section in this document for a detailed outline of the Security Assessment.

3 If your Extensibility Package passes the Security Assessment you will be notified via the original Promote to Test service request ticket that you submitted. Deltek will move forward with deploying your Extensibility Package in the Test Environment.

4 If your Extensibility Package fails the Security Assessment you will be notified via the original Promote to Test service request ticket that you submitted. Deltek will be available to discuss why the Extensibility Package failed the Security Assessment and potential remediation options.

SDLC for *Modifying an Existing* Development Project



1. It is the responsibility of each Costpoint Enterprise Cloud customer to regression test their existing Extensibility Packages that are live in their Production Environment. Deltek provides a Preview Environment which includes Extensibility Packages that are live in the Production Environment. The customer is required to perform regression testing of their live Extensibility Packages in this environment.
2. If your Extensibility Package fails your regression tests you are required to re-develop the Extensibility Package in your Development Environment. The SaaS Developer is responsible for re-deploying the Extensibility Package in their Development Environment.
3. If your Extensibility Package passes your regression tests no further action is required.
4. The SaaS Developer is responsible for archiving a copy of their Extensibility Package for future use. The SaaS Developer is also responsible for maintaining version control of their Extensibility Package. It is important that an archive copy is available in the event that the Extensibility Package has to be modified after it has been promoted to the Production Environment due to application updates.
5. Submitting the Promote to Test service request will initiate Deltek to conduct a Security Assessment of your Extensibility Package. The Security Assessment is a comprehensive review/mitigate/approval of your Extensibility Package (including source code). Please see the Security Assessment section in this document for a detailed outline of the Security Assessment.
6. If your Extensibility Package fails the Security Assessment you will be notified via the original Promote to Test service request ticket that you submitted. Deltek will be available to discuss why the Extensibility Package failed the Security Assessment and potential remediation options.
7. If your Extensibility Package passes the Security Assessment you will be notified via the original Promote to Test service request ticket that you submitted. Deltek will move forward with deploying your Extensibility Package in the Test Environment.

SDLC Security Assessment

Overview

Deltek will perform a Security Assessment prior to deploying any development package into a customer's Implementation/Test Environment or their Production Environment.

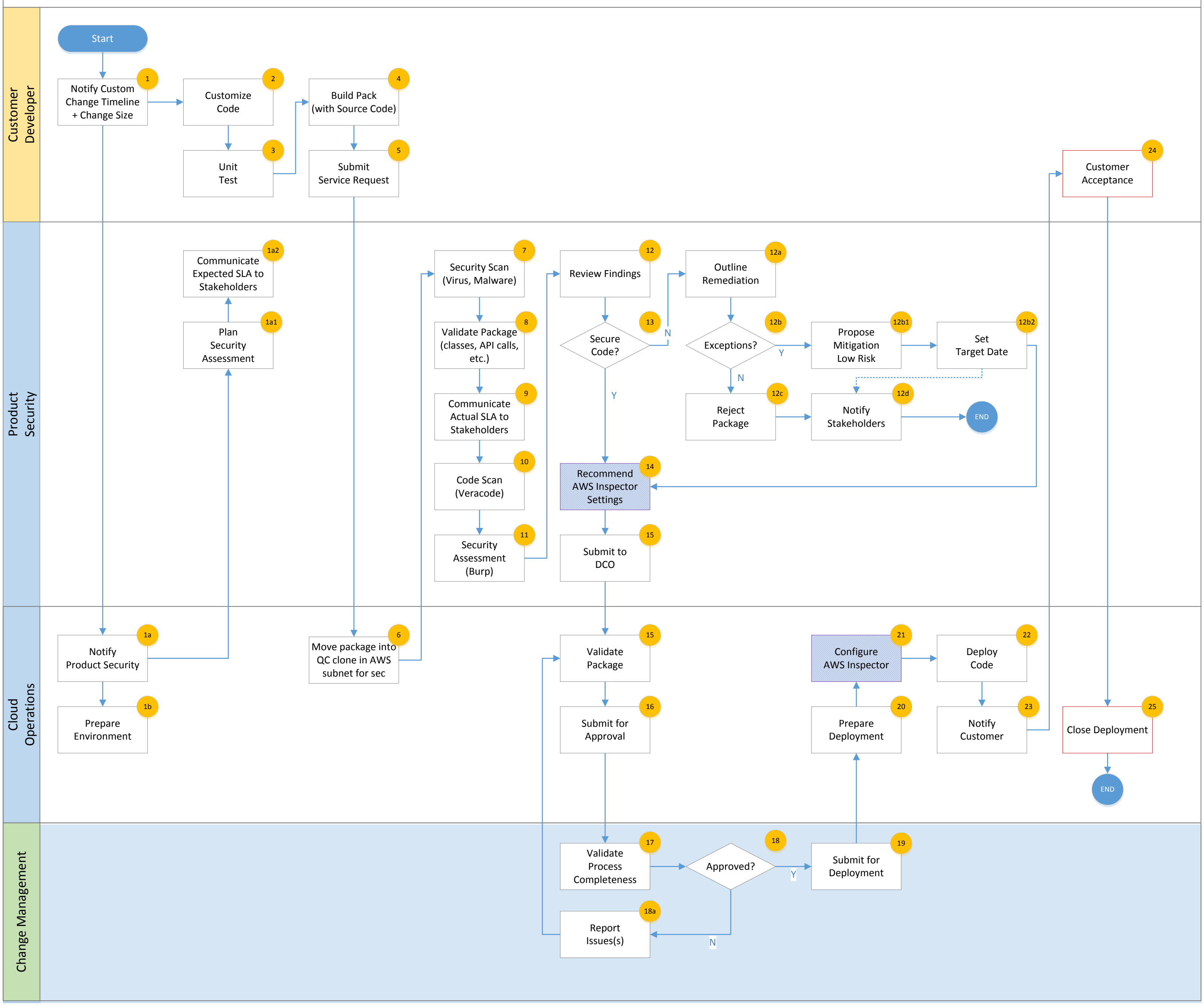
The purpose of the Security Assessment is to ensure the development package does not contain any code that could be harmful if deployed in a shared environment.

Deltek will notify customers via the original service request ticket of any development package that has been rejected. Deltek will provide details as to why the development package was rejected and work with the customer to modify the development package in an attempt to modify the development package so it passes the security assessment.

Security Assessment Workflow

The diagram below depicts the security assessment workflow.

Security Assessment / Review / Mitigation / Approval



Read Only ODBC Access to the Costpoint Database

You can establish a secure, read-only connection to your Costpoint database, using ODBC. You can connect tools such as Microsoft Excel or Microsoft Access directly to your database.

Request ODBC Accounts

Before you can use the ODBC connection, the Deltek Cloud Ops team must set up your ODBC accounts. You can have up to **five** active ODBC accounts.

To request these accounts please complete the Request ODBC Read Only Access Service Request. Customer Care will provide the necessary ODBC account information within five business days.

Install and Configure ODBC Driver

You must install and configure a driver on every workstation that will be used to connect to the Costpoint database.

The user who installs the ODBC drivers must, at a minimum, have local administrator privleges.

To install and configure the driver:

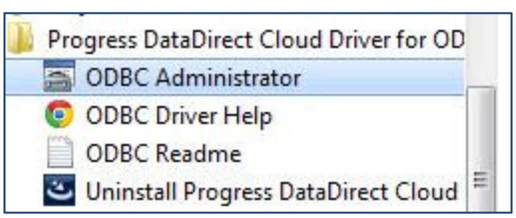
1. Download the ODBC driver installer from the appropriate link below.

   Select either the 32-bit or 64-bit driver that corresponds to the application from which the ODBC connection will be established. For example, if the ODBC connection will be made from the 32-bit version of Excel, then use the 32-bit version of the driver (regardless of the architecture of the operating system).

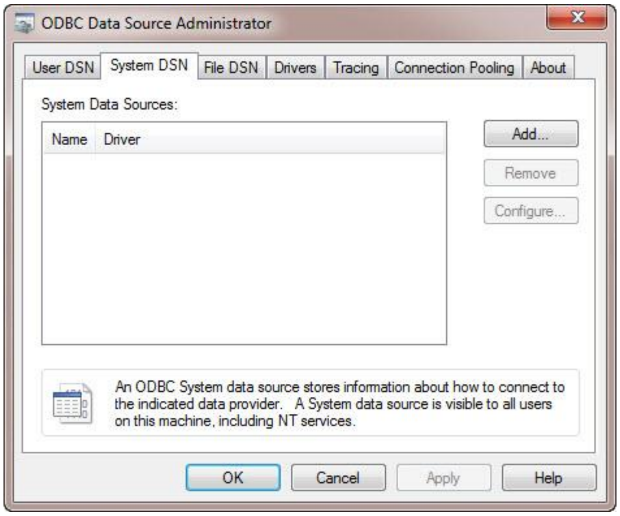
   a. DataDirect ODBC Driver 32-Bit

   b. DataDirect ODBC Driver 64-Bit

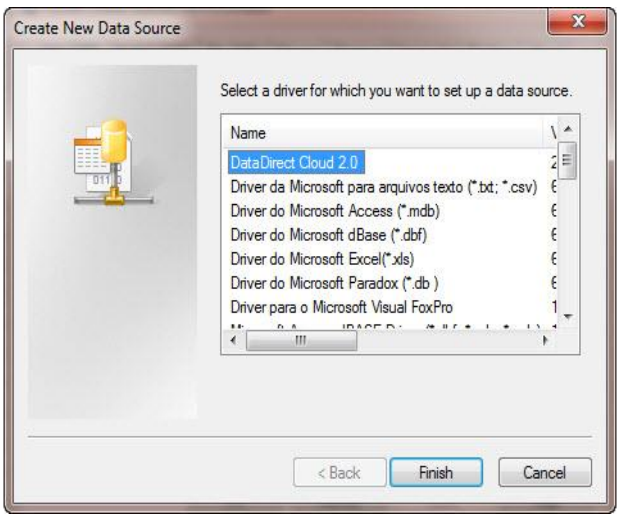
2. Run the ODBC driver installer. Follow the prompts, accepting all of the defaults.
3. Click **Start** > **All Programs** > **Progress DataDirect Cloud Driver for ODBC** and select **ODBC Administrator**.

4. From the ODBC Data Source Administrator dialog box, you can create either a User DSN or System DSN. User DSNs are for a single user; System DSNs are available to all users of the workstation. Select the User DSN or System DSN tab, based on your needs.



5. Click **Add.** In the Create New Data Source dialog box, select **DataDirect Cloud 2.0** and click **Finish**.

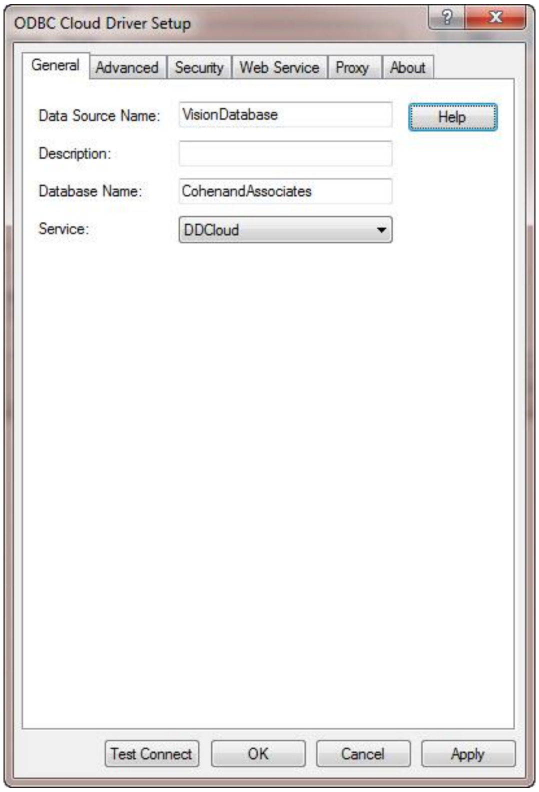


6. In the ODBC Cloud Driver Setup dialog box, enter a name in the **Data Source** field. This can be any name that helps you identify the data source.

   You do not need to add a value in the **Description** field.

7. In the **Database Name** field, enter the database name that you received from Deltek Cloud Ops when you requested the ODBC accounts. This should be the same as your Costpoint System Name.

8. In the **Service** field, select **DDCloud**.



9. Click **Test Connect** and enter the credentials that you received from Deltek Cloud Ops when you requested the ODBC accounts. Click **OK**.

   A **Connection established!** message displays. Click **OK**.

10. Click **OK** in the ODBC Cloud Driver Setup dialog box and click **OK** in the ODBC Data Source Administrator dialog box.

11. The final steps is to add two entries to the registry. If you need help doing this, see your system administrator. Follow these steps:

    a. For a User DSN, go to:

       \HKEY_CURRENT_USER\Software\ODBC\ODBC.INI\<datasource>

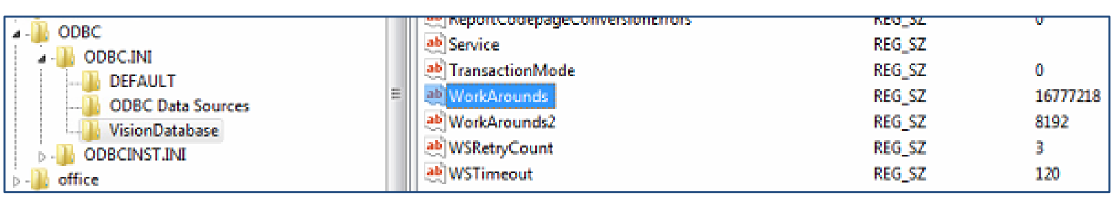
       For a System DSN, go to:

       \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ODBC\ODBC.INI\<datasource>

       The **<datasource>** value is the name that you entered in the **Data Source** field in Step 6 above.

    b. Add a new String Value with the name **WorkArounds** and a value of **16777218**.

    c. Add a new String Value with the name **WorkArounds2** and a value of **8192**.



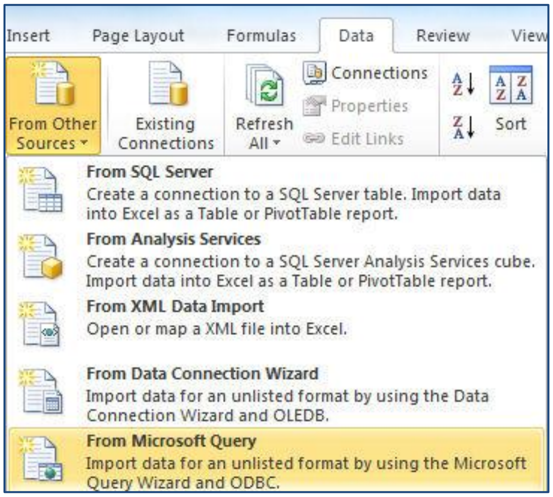
Connect to Your Cosptoint Database

Once the ODBC driver is installed and configured, you can make a connection between the workstation and the Costpoint database, using any application that supports ODBC connectivity.

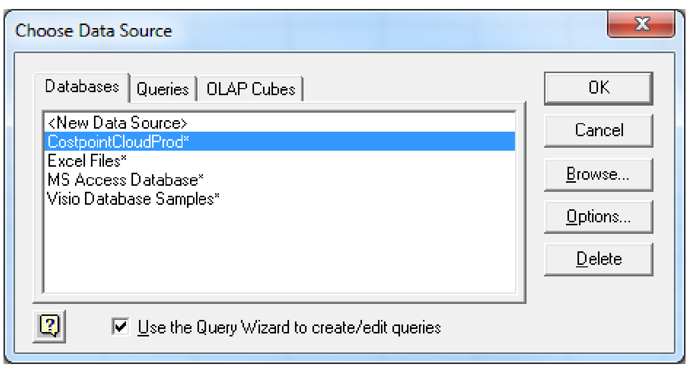
The instructions below use Microsoft Excel as an example application. The process for other applications may not be exactly the same, but will be very similar.

To connect to the Costpoint database:

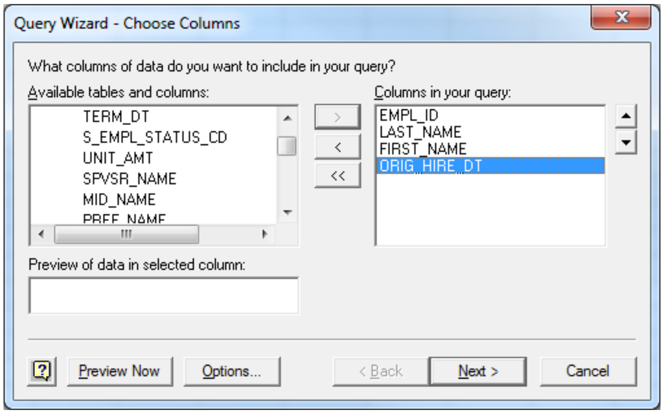
1. Go to the application from which you want to connect to the Costpoint database and initiate an ODBC connection.



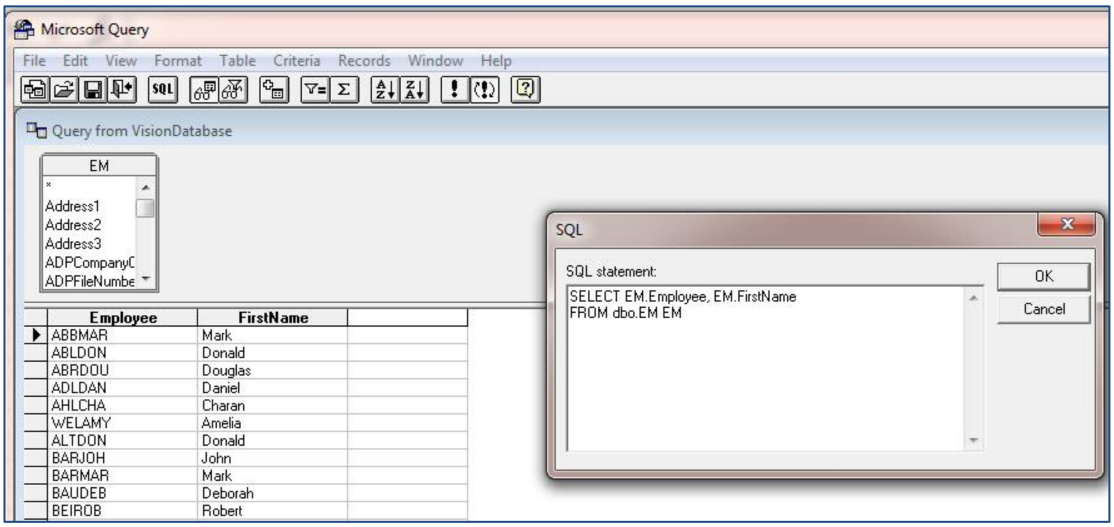
2. Select the data source that you entered in the **Data Source** field in Step 6 above.



3. Enter your credentials for the database connection.
4. Build a query.



5. Execute the query.



Costpoint Web Interface Console (WIC)

Overview

Access to the Costpoint Web Interface Console is available in your Development Environment. Access to the WIC allows the SaaS Developer to develop web services in the cloud.

Accessing the Costpoint WIC:

1. Follow the instructions to Install Citrix Plug In.
2. Navigate to your Cloud Portal. In the Customer Care area click on Administrative Functions >>
3. Login to Citrix using your cloud username and password. If you do not have a username and password please have the SaaS Customer Administrator create an account for you.
4. Select the Costpoint Integration Folder
5. Select the Costpoint Integration icon to run.
6. Select Login

Restarting Web Services

In addition to the Web Interface Console access the SaaS Developer has the ability to restart the services and launch the monitoring tool for testing and diagnostics.

When restarting the Costpoint service please allow up to 5 minutes to access Costpoint or the utility.

Monitoring and Troubleshooting

Select Cosptoint Monitoring to identify the logs you want to collect. Select a local drive on your system to save the logs and diagnostics to.

When process completes review files or open a ticket with customer care and attach diagnostic with the case.

Service Requests

Overview

Service Requests allow the SaaS Customer Administrator to direct Deltek Cloud Operations to perform various types of processes or actions to their company's cloud environment. Service Requests are required to perform many of the required steps during a cloud implementation or migration.

The SaaS Customer Administrator should make themselves familiar with the available service requests, the specific instructions for submitting a service request and the Service Level Objective (SLO) assigned to each service request.

Submitting a service request

To view a complete list of service requests follow these steps:

1. Have your Deltek Support Center password available.
2. Navigate to your Costpoint Enterprise Cloud Portal.
3. Click on the **Support, Guides and FAQ's >>** link in the Customer Care area.
4. Log into the Deltek Support Center.
5. Locate and click on the Costpoint Enteprise link under the Deltek Cloud Solutions grouping.
6. View the list of Service Requests on the right hand side of the page.
7. Click on the  icon for detailed service request instructions and corresponding SLO's.

Service Request Instructions and SLO's

Prior to submitting a service request the SaaS Customer Administrator should read the detailed instructions for the service request to be submitted. The SaaS Customer Administrator should also review the Service Level Objective (SLO) associated with the service request to be submitted. This will ensure the SaaS Customer Administrator submits the service request correctly and has a good expectation of when the service request will be completed.

To view the detailed instructions and SLO's for the service requests follow these steps.

1. Log into the Deltek Support Center.
2. Locate and click on the Costpoint Enteprise link under the Deltek Cloud Solutions grouping.
3. View the list of Service Requests on the right hand side of the page.
4. Click on the  icon for service request instructions.
5. On the instructions page click on the Click **here** for detailed instructions to get to the detailed instructions and the SLO for each service request.

Sample list of Service Requests

Partial list of Service Requests:

- Database Refresh
- Promote to Preview
- Promote to Production
- Promote to Test

Service Request Security Policy

For security purposes, Deltek only processes service requests that are submitted to Deltek Customer Care by your company's SaaS Customer Administrator. Requests submitted by personnel other than your SaaS Customer Administrator are rejected.

SaaS Customer Administrator Policy

Your organization can have a maximum of **five** SaaS Customer Administrators at any given time. When more than one SaaS Customer Administrator is identified, each administrator is granted the same authority to administer the Costpoint Essentials solution and receives the same communications from Deltek.

Deltek recommends that you assign a second SaaS Customer Administrator to ensure that your company is able to carry out service requests at all times.

If your organization needs to change the SaaS Customer Administrator or add a SaaS Customer Administrator, please submit the appropriate service request. Prior to submitting the service request to add a new SaaS Customer Administrator you must set up the user in User Manager.

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